ZMING 泽铭科技

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SHANGHAI ZEMING ENVIRONMENTAL TECHNOLOGY CO.,LTD

Clean The Environment
With Technology

ZMING 泽铭科技

CONTENTS

ZMING TECHNOLOGY

Zeming Environmental Technology Co., Ltd. was established in 2006 in Shanghai, China and is a high-tech enterprise that covers research, manufacturing, system integration, maintenance and related data analysis of water quality monitoring instrument and system. We have a rich range of product lines of online, Lab, and portable water quality monitoring instruments and systems providing service to users in the fields of surface water (including ocean), sewage, drinking water, and industrial process water, etc.

The company currently has over 30 independently developed instruments and equipment products. In the future, the company will continue to focus on the research and development of miniaturized and intelligent environmental monitoring instruments, continuously improve and enrich product lines such as portable and laboratory instruments, online water quality analyzers, automatic monitoring systems, etc., and provide professional services in the fields of municipal sewage, environmental monitoring, industrial control, water treatment and transportation, marine and comprehensive ecological environment monitoring.

ZMING

BUSINESS SCOPE

- Water quality monitoring instruments
- Water quality online monitoring system
- Environmental monitoring data service
- Online monitoring of pollution source water quality
- Ecological environment automatic monitoring system
- Full custody operation and maintenance services for water quality monitoring system

MILESTONE

In 2006
Incorporation

In 2008
The first launch of cyanobacteria early warning monitoring buoy in Taihu Lake in Jiangsu Province

In 2010
Construction of a fixed aquatic comprehensive meteorological and ecological monitoring platform for Chaohu Lake in Anhui Province

In 2013
The "Mini Station" for Online Monitoring of Black and Odorous River Water Quality in the Ancient City District of Suzhou was put into use

In 2014
Established Research and Development Department for online water quality monitoring instruments

In 2015
The first miniaturized instrument developed by the company - total phosphorus online analyzer was launched

In 2016
Certificated as "Shanghai High tech Enterprise"

In 2017
Recognized as a "Technology Giant Enterprise in Putuo District, Shanghai"

In 2018
Certified by ISO 14001 Environmental Management System and ISO 9001 Quality Management System

In 2019
Awarded the title of Shanghai Specialized, Refined, and New Enterprise

In 2020
Suzhou Factory established and put in operations

CERTIFICATE

AAA Credit Certificate

Small and medium-sized enterprises with specialized, refined, and innovative capabilities in Shanghai

High tech enterprise certificate

Management system certificates in Quality, Environment, Health

Technology Little Giant in Putuo District, Shanghai

19 practical patents

2 invention patents

35 computer software copyrights

ISO-27001 Information Security Management System Certification

ISO-20000 Information Technology Service Management System Certification

China Environmental Service Certification (Surface Water Operation and Maintenance)

China Environmental Service Certification (Smoke Operation and Maintenance)

China Environmental Protection Product Certification

FOOTPRINT

HQ: Shanghai

Suzhou Manufacturing Site and R&D center

6 Branches with technical service teams in Hefei, Changshu, Suzhou, Wuxi, Taizhou, Wuhan and Zhengzhou

ADVANTAGE

Assembled and maintained over 300 various water quality monitoring systems

The company has put about 100 blue-green algae monitoring and early warning buoys in domestic well-known lakes such as Taihu Lake in Jiangsu Province, Chaohu Lake in Anhui Province, Fuxian Lake in Yunnan Province, Qinghai Lake, Poyang Lake, etc., and has assembled, put int use and maintained about 200 mini automatic water quality monitoring stations in water sources, junction sections, and black and smelly rivers.

Independent research and development of monitoring instruments

After more than ten years of research and development, three major categories have been formed: portable water quality analyzers, miniaturized online water quality analyzers, and in situ nutrient analyzers, with a wide range of monitoring parameters.

Data service

We also provide medium to short-term (1 month to 3 years) data services mainly based on automatic monitoring data of mini-stations, unmanned ships or drones to trace pollution sources.

Comprehensive observation and monitoring of ecological environment

The company pays high attention to product application innovation and has also assembled systems used in greenhouse gas measurement, atmospheric nitrogen and phosphorus deposition and acid rain observation, meteorological and hydrological monitoring, fisheries and aquaculture, and comprehensive marine monitoring, etc.

Factory investment and operation in Suzhou

Covering an area of over 1000 square meters, our main business includes instrument production, system integration, and debugging, etc. Under a unified and efficient management mode, our annual production capacity is about 2000 instruments and 200 sets of micro water quality automatic stations.

Online Water Quality Monitoring Instrument
HQ-100 Multiparameter Online Water Quality Analyzer

The HQ-100 multi-parameter online water quality analyzer is a multifunctional water quality monitoring platform that can provide users with accurate measurements of water temperature, pH/ORP, dissolved oxygen, conductivity, turbidity, residual chlorine, COD, and ammonia nitrogen.
The display of the HQ-100 is a 7-inch TFT touch LCD screen with customized software platform, making on-site operation fast and simple. It adopts digital intelligent probes, which store instrument information and calibration data internally. All probes have a waterproof level of IP68.

Parameters

Power input: 88~245VAC wide power supply or 24VDC customized
Power Dissipaton: 5W (energy-saving mode), 7W (conventional mode)
Instrument dimention: 219 x 76 x 232 (mm)
Output: RS485 Modbus
Display: 7 "TFT true color LCD screen with a resolution of 800 × 400

Product Features

- Large size color touch screen, easy to operate, supporting software system upgrades;
- Measurement and calibration data can be directly exported to a USB flash drive;
- Digital automatic recognition system, plug and play;
- Digital sensor, internally saving calibration data, replacing the sensor without the need for recalibration;
- The sensor comes with a cleaning brush, which can achieve automatic cleaning and greatly reduce the workload of maintenance;
- High precision electrode, suitable for various complex water environment;
- Built in temperature sensor, real-time temperature compensation (0-60) ℃;

HQ-10
Single Parameter Online Water Quality Analyzer

The HQ-10 single parameter online water quality analyzer controller can support all of our company's digital/analog online water quality sensors, and has a complete external interface, which can easily achieve sensor networking, remote control, fault diagnosis and other functions.

Host Parameters

Dimensions:144 *144 *115 mm
Power supply : 220 V AC (maximum power<5W)
Storage temperature: (-20 - 70)℃
Operation temperature: (-10 - 60)℃
Housing material: ABS
Enclosure Rating: IP55
Analog Output: Two 4-20mA analog outputs with a maximum load of 500 ohms
Relay: 3-way SPDT relay (120VAC, 24VDC/1A)
External communication output: 1-wayRS485 Modbus
Note: Digital sensors are optional (temperature, pH, ORP, conductivity, turbidity, dissolved oxygen, TSS, COD, ammonia nitrogen, residual chlorine, chlorophyll, blue-green algae)

Product Features

- Supports digital/analog online water quality sensors, automatic recognition, plug and play
- Adopts an industrial grade 4-inch 800 * 480 high-resolution TFT color screen
- Supports RS485 MODBUS protocol
- Supports 4-20MA analog output and relay control output
- Supports online software upgrades for easy maintenance

Application Area

- Water quality monitoring of surface water (lakes, rivers)
- Water quality monitoring during the treatment process of waste water
- Monitoring of water quality at discharge outlets of enterprises
- Water quality monitoring of drinking water sources, tap water inflow, and process treatment
- Aquaculture water quality monitoring
- Wastewater monitoring in hospitals and medical institutions
- Landscape River Water Quality Monitoring
- Industrial process control water monitoring

Technical Attributes

Sensor	Measuring method	Range (Adjustable range, adjustable according to customer needs)	Accuracy	Repeatability	Resolution ratio	Response time	Drift	Lower limit of detection
Dissolved oxygen	Polarography or fluorescence method	(0-20)mg/L or (0-200)%	±0.3mg/L	±0.3mg/L	0.01mg/L	60s	±0.3mg/L	/
Conductivity Salini	Graphene electrode method	Conductivity: (0-500)mS/cm Salinity: (0-100) ppt	±1%	≤1%	0.01μS/cm	≤20s	±1%F.S.	/
Turbidity	Infrared scattering method	(0-4000)NTU	±2%	≤1%	0.01NTU	≤5s	±3%F.S.	/
PH	Glass electrode method	0~14pH	±0.1pH	±0.1pH	0.01pH	≤10s	±0.1pH	/
ORP	Glass electrode method	(-2000～+2000) mV	±1mV	±1mV	0.1mV	≤10s	±1mV	/
Temperature	Thermistor method	(0-60) ℃	±0.1℃	≤1%	0.1℃	≤10s	/	/
TSS	Infrared scattering method	(0-10000/20000)mg/L	±5%	≤3%	1mg/L	≤5s	±3%F.S.	/
COD	UV Spectroscopy	(0-1000/2000)mg/L	±3%	≤3%	Minimum range: 0.01mg/L	≤10s	±3%F.S.	0.1mg/L
Ammonia nitrogen	Ion selective electrode method	(0.1-1000)mg/L	±3%	≤2%	Minimum range: 0.01mg/L	≤60s	±3%F.S.	0.1mg/L
Residual/Total Chlorine	Coated electrode method	(0~2/20)mg/L	±3%	/	0.01mg/L	T90 2min	/	/
Chlorophyll-a	Fluorescence	(0-50/500) μg/L	±3%	≤2%	0.01μg/L	≤10s	±1%F.S.	0.05μg/L
Blue green alga	Fluorescence	(0-200000) cells/mL	±3%	≤2%	1cells/mL	≤10s	±1%F.S.	200 cells/mL

HQ-3100
Automatic Ammonia Nitrogen Water Quality Analyzer

HQ-3100 automatically online monitors ammonia nitrogen in water with automatic measurement time settings or remote control. It can be widely used for monitoring of various water environment such as river water, drinking water sources, and industrial wastewater.

Product Features

01 Eliminate the interference of electromagnetic waves on the measurement results through dual beam measurement;

02 Adopt capacitive metering method, the sample/reagent has high accuracy and good repeatability;

03 Automatic color and turbidity compensation, suitable for high turbidity water bodies;

04 Unique reagent formula, shelf life can be extended to 6 months;

Technical Attributes

Measurement parameters	Ammonia nitrogen
Measuring principle	Salicylic acid spectrophotometry
Range	(0-2/10) mg/L, The maximum extended range is 500mg/L
Lower limit of detection	0.01 mg/L
Resolution ratio	0.001 mg/L
Accuracy	±5 %
Repeatability	≤5%
Zero drift	±5 %
Span Drift	±5 %
Time	40 min

Linear	$R^2 \geq 0.999$
Stability	Not exceeding ± 10% within 24 hours
Display	7-inch LCD display
Ambient temperature	(5～40) ℃
Maximum power	100W, Average power 25W
Power supply	(85-264) V AC / (47-63) Hz Scalable DC 24V power supply
Dimension	(W) 400× (D) 300× (H) 640mm (Without protrusions)
Serial communication	RS485 MODBUS
Analog Output	(4-20) mA
Ambient humidity	≤85%RH (No condensed water)

HQ-3200
Total Phosphorus/Nitrate Water Quality Automatic Analyzer

The HQ-3200 Total Phosphorus/Nitrate Water Quality Automatic Analyzer uses the national standard ammonium molybdate spectrophotometric method to monitor the total phosphorus in water. Its unique reaction system design ensures that the instrument can measure quickly and accurately.

Product Features

01 High temperature and high pressure digestion, high digestion rate, and short digestion time

02 Automatic turbidity and chromaticity compensation function, suitable for high turbidity water bodies

03 Adopting capacitive metering method, with high sample/reagent accuracy and good repeatability

04 Built in efficient and intelligent digital temperature control system (adjustable heating temperature), ensuring accurate temperature

05 Complies with the new national standard and can achieve multiple quality control functions

Technical Attributes

Measurement parameters	Measuring principle	Range (Adjustable range, adjustable according to customer needs)	Detection limit	Resolution ratio	Accuracy	Repeatability	Zero drift	Span drift	Time
Phosphorus	Ammonium molybdate spectrophotometric method	(0-2/10) mg/L, The maximum extended range is 500mg/L	0.01mg/L	0.001mg/L	± 10%	≤5%	± 5%	± 10%	40min
Total phosphorus nitrate PO4	Ammonium molybdate spectrophotometric method	(0-2/10) mg/L, The maximum extended range is 500mg/L	0.01mg/L	0.001mg/L	± 10%	≤5 %	± 5%	± 10%	30min

Linear	R2≥0.999
Stability	Not exceeding ± 10% within 24 hours
Display	7-memory LCD display
Ambient temperature	(5～40) ℃
Maximum power	100W, Average power25W

Power supply	(85-264)V AC /(47-63)Hz Scalable DC 24V power supply
Dimension	(W)400×(D)300×(H) 640mm(Without protrusions)
Serial communication	RS485 MODBUS
Analog Output	(4-20) mA
Ambient humidity	≤ 85%RH(No condensed water)

HQ-3300 CODCr
Automatic Water Quality Analyzer

HQ-3300 is an online automatic monitoring instrument for chromium based COD based on Chinese national standard analysis methods. It can be used for COD measurement in various complex water environment, with built-in quality control function, which is convenient to do remote analysis and to monitor instrument status. The instrument has a simple structure and is easy for operation and maintenance. It is suitable for long-term unmanned automatic monitoring.

Product Features

01 High temperature and high pressure digestion, high digestion rate, and short digestion time

02 Eliminating interference from electromagnetic fluctuations in measurement results through dual beam measurement

03 Automatic turbidity and chromaticity compensation function, suitable for high turbidity water bodies

04 Adopting capacitive metering method, with high sample/reagent accuracy and good repeatability

05 Chloride ion interference ≤ 75000mg/L, suitable for high salinity wastewater

06 Low detection limit, suitable for complex water sample determination

Technical Attributes

Measurement parameters	CODCr
Measuring principle	Potassium dichromate digestion spectrophotometry
Range	(15-500) mg/L, The maximum extended range is25000mg/L (Adjustable range, adjustable according to customer needs)
Repeatability	≤5 %
Zero drift	± 5%
Span Drift	± 5%
Accuracy	± 10%

Time	40 min
Maximum power	100W，Average power25W
Power supply	(85-264) V AC / (47-63) Hz Scalable DC 24V power supply
Dimension	(W) 400× (D) 300× (H) 640mm (Without protrusions)
Serial communication	RS485 MODBUS
Analog Output	(4-20) mA
Ambient humidity	(5-40) ℃
Ambient humidity	≤ 85%RH(No condensed water)

HQ-3501
Permanganate Index Water Quality Automatic Analyzer

HQ-3501 is an online analysis instrument for permanganate index developed to address the characteristics of China's water environment. It adopts the standard method of acidic potassium permanganate redox titration and uses a micro titration pump to ensure that the analyzer has high accuracy, good repeatability, and low maintenance needs. This product is suitable for surface water monitor and analysis such as drinking water sources, lakes, rivers, etc., and the analyzer is suitable for long-term unmanned automatic online monitoring.

Product Features

01 Using acidic potassium permanganate redox potentiometric titration method to eliminate the influence of turbidity and chromaticity on titration

02 Adopting capacitive metering method, with high sample/reagent accuracy and good repeatability

03 Built in efficient and intelligent digital temperature control system (adjustable heating temperature), ensuring accurate temperature

04 Complies with the new national standard and can achieve multiple quality control functions

Technical Parameter

Measuring principle	Potassium permanganate oxidation potentiometric titration method
Range	(0-10/20) mg/L,The maximum extended range is 160mg/L (Adjustable range, adjustable according to customer needs)
Detection limit	0.5 mg/L
Resolution ratio	0.01 mg/L
Accuracy	±10 %
Repeatability	≤5 %
Zero drift	±5 %
Span Drift	±5 %
Time	50 min

Linear	R^2≥0.995
Stability	Not exceeding ± 10% within 24 hours
Display	7-inch LCD display
Ambient temperature	(5～40) ℃
Maximum power	100W，Average power25W
Power supply	(85-264) V AC / (47-63) Hz Scalable DC 24V power supply
Dimension	(W) 400× (D) 300× (H) 640mm (Without protrusions)
Serial communication	RS485 MODBUS
Analog Output	(4-20) mA
Ambient humidity	≤85%RH(No condensed water)

HQ-3600
Total Nitrogen Water Quality Automatic Analyzer

HQ-3600 is an online automatic monitoring instrument for total nitrogen based on Chinese national standard analysis method. It can be used for measuring total nitrogen in various water environment. With built-in quality control function, it is convenient to do remote analysis of monitor instrument status. The instrument has a simple structure and is easy for operation and maintenance. It is suitable for long-term unmanned automatic monitoring.

Product Features

01 Unique digestion technology to eliminate the influence of turbidity, suitable for high turbidity water samples

02 Adopting capacitive metering method, with high sample/reagent accuracy and good repeatability

03 Built in efficient and intelligent digital temperature control system (adjustable heating temperature), ensuring accurate temperature

04 Equipped with various equipment status monitoring functions such as hardware self-diagnosis alarm, power outage protection, and leakage detection

Technical Attributes

Measurement parameters	Total nitrogen
Measuring principle	Potassium persulfate digestion ultraviolet spectrophotometry
Range	(0-2/10) mg/L, The maximum extended range is 500 mg/L (Adjustable range, adjustable according to customer needs)
Detection limit	0.1 mg/L
Resolution ratio	0.001 mg/L
Accuracy	± 10%
Repeatability	≤5%
Zero drift	± 5%
Span Drift	± 10%
Time	50 min

Linear	R2≥0.995
Stability	Not exceeding ± 10% within 24 hours
Display	7-inch LCD display
Ambient temperature	(5～40) ℃
Maximum power	100W, Average power25W
Power supply	(85-264) V AC / (47-63) Hz Scalable DC 24V power supply
Dimension	(W) 400× (D) 300× (H) 640mm (Without protrusions)
Serial communication	RS485 MODBUS
Analog Output	(4-20) mA
Ambient humidity	≤85%RH (No condensed water)

HQ-3600 (NO3)
Nitrate Water Quality Automatic Analyzer

HQ-3600 (NO3) is an online automatic monitoring instrument for nitrate based on Chinese national standard analysis method. It can be used for nitrate measurement in various water environment. With built-in quality control function, it is convenient to do to remote analysis of water and to monitor instrument status. The instrument has a simple structure and it is easy for operation and maintenance. It is suitable for long-term unmanned automatic monitoring.

Product Features

01 Adopting capacitive metering method, with high sample/reagent accuracy and good repeatability

02 Equipped with various equipment status monitoring functions such as hardware self diagnosis alarm, power outage protection, and leakage detection;

03 Complies with the new national standard and can achieve multiple quality control functions

Technical Attributes

Measurement parameters	Nitrate NO3
Measuring principle	UV Spectrophotometry
Range	(0-2/10) mg/L, The maximum extended range is 500 mg/L (Adjustable range, adjustable according to customer needs)
Lowe limit of detection	0.1mg/L
Resolution ratio	0.001mg/L
Accuracy	± 10%
Repeatability	≤5 %
Zero drift	± 5%
Span Drift	± 10%
Time	40min

Linear	R^2≥0.995
Stability	Not exceeding ± 10% within 24 hours
Display	7-inch LCD display
Ambient temperature	(5～40) ℃
Maximum power	100W, Average power25W
Power supply	(85-264) V AC / (47-63) Hz Scalable DC 24V power supply
Dimension	(W) 400× (D) 300× (H) 640mm (Without protrusions)
Serial communication	RS485 MODBUS
Analog Output	(4-20) mA
Ambient humidity	≤ 85%RH(No condensed water)

Micro Flow Water Quality Online Monitoring Equipment

HQ-6000 Series Microfluidic Analysis Platform

The HQ-6000 series microfluidic analysis platform is based on continuous flow analysis technology. Each reaction volume is as low as 0.4ml and reagent measurement unit is as low as 0.03ml. The platform has high analysis accuracy and repeatability of up to 0.1%; Strong range compatibility, with optional optical path analysis of 2,5,10,20,30,40mm, meeting the different requirements of monitoring indicators for range and resolution; The analysis parameters include residual (total) chlorine, residual chlorine dioxide, residual ozone, ammonia nitrogen, nitrite nitrogen, phosphate, silicate, fluoride, etc.

Product Features

01 Micro flow technology, with each reaction total volume less than 1mL and reagent consumption of 0.03mL

02 The national standard DPD method is compatible with residual chlorine/total chlorine/residual chlorine dioxide/residual ozone indicators, and the range can be expanded;

03 The instrument is quickly connected without the need to install a pressure relief device;

04 Various measurement modes, display of reagent left, self checking fault and alarm functions

05 There are four measurement modes: single, continuous, periodic, and fixed point, which can be flexibly set;

06 The instrument structure is based on modular design concept, which is easy to operate, maintain, and debug;

07 Support RS485 communication port, (4-20) mA analog output;

08 Low power consumption, low reagent waste, and short testing cycle

09 Active water intake without the need for external pressure relief devices, easy installation, installation area only need the size of the cabinet (0.3 square meters), automatic cleaning, no need for manual cleaning

Application Scenario

- Municipal water supply plant, secondary water supply, and water quality monitoring at the end of the pipeline network
- Monitoring of hypochlorite disinfection in swimming pool water, water production process, disinfection process, hospital wastewater, water supply network, swimming pool
- Disinfection monitoring of circulating cooling water, medical wastewater, and other water quality
- Industries such as food, brewing, pharmaceuticals, steel, petroleum, electroplating, printing and dyeing

Technical Attributes

Type	Measurement parameters	Measuring principle	Measuring range
HQ-6017	Residual (total) chlorine	DPD colorimetric method	(0-2/5/20)mg/L Adjustable
HQ-6018	Residual chlorine dioxide	DPD colorimetric method	(0-0.5/2/5)mg/L Adjustable
HQ-6019	Residual ozone	DPD colorimetric method	(0-0.5/2)mg/L Adjustable

Time	Default 2.5 minutes, adjustable measurement cycle
Repeatability	≤0.5%
Accuracy	≤10%
Quantitative offline	0.01 mg/L
Resolution ratio	0.001mg/L
Data Storage	2-year cycle storage
Digital communication	RS485（MODBUS）
Analog Output	(4-20)mA
power supply	220V AC
power	10W
Dimensions	Width 240mm * Height 250mm * Thickness 88.5mm

HQ-8100

Ammonia Nitrogen In-situ Automatic Analyzer

The HQ-8100 ammonia nitrogen in-situ automatic analyzer uses standard wet chemical analysis methods to in-situ monitor the concentration of ammonia nitrogen in water. It has small size, compact design, portable trolley box packaging design, it is easy for convenient transportation and use. It can be applied to in-situ monitoring and portable monitoring of different water environment such as surface water, drinking water, wastewater, groundwater, seawater, etc. It can be integrated into systems such as buoys, floating platforms, water platforms, and floating ships.

Product Features

01 Equipped with a handheld display screen for more convenient debugging operations

02 Equipped with depth detection function, capable of measuring a maximum depth of 100 meters

03 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to changes in water quality

04 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to the change of water quality;

05 Equipped with leakage detection function

06 Equipped with temperature and humidity detection function

07 Low quantification limit, can reach ppb level ;

08 Fast heating and digestion function, shorter measurement time

Technical Attributes

Measurement parameters	Ammonia nitrogen
Measuring principle	Salicylic acid spectrophotometry
Range	(0~1/10) mg/L (Adjustable range, adjustable according to customer needs)
Lower limit of detection	Lowest range0.01 mg/L
Resolution ratio	0.001mg/L
Accuracy	± 5%
Repeatability	≤5%
Zero drift	± 5%
Span Drift	± 5%
The recovery	80% ~ 120%

Time	28 min
Power	15 W
Linear	$R^2 \geq 0.995$
Stability	Not exceeding ± 10% within 24 hours
Power supply	12V DC
Dimension	101 mm（L）×140（ϕ）mm
Depth	≤ 50m
Serial communication	RS232 or MODBUS
Ambient temperature	(0~50) ℃
Protection grade	IP67

HQ-8200
Total Phosphorus In-situ Automatic Analyzer

HQ-8200 adopts Chinese national standard method for in-situ monitoring of total phosphorus in surface water. With built-in turbidity compensation function, the analyzer can be applied to high turbidity water environment. The online external working power supply is 12V, which can be directly powered by solar energy. The monitor can be integrated into buoys, floating platforms, water platforms, and shore station systems to provide accurate, continuous, and stable measurement data for unmanned in-situ online monitoring.

Product Features

01 Equipped with a handheld display screen for more convenient debugging operations

02 Equipped with depth detection function, capable of measuring a maximum depth of 100 meters

03 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to changes in water quality

04 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to the change of water quality;

05 Equipped with leakage detection function

06 Equipped with temperature and humidity detection function

07 Low quantification limit, can reach ppb level ;

08 Fast heating and digestion function, shorter measurement time

Technical Parameter

Measurement parameters	Phosphorus
Measuring principle	Potassium persulfate digestion ammonium molybdate spectrophotometric
Range	(0~1/10) mg/L (Adjustable range, adjustable according to customer needs)
Lower limit of detection	Lowest range 0.010 mg/L
Resolution ratio	0.001mg/L
Accuracy	±10%
Repeatability	±10%
Zero drift	± 5%
Span Drift	±10%
The recovery	80% ~ 120%

Time	40 min
Power	15 W
Linear	$R^2 \geq 0.995$
Stability	Not exceeding ± 10% within 24 hours
Power supply	12V DC
Dimension	101 mm (L) ×140 (ϕ) mm
Depth	≤50 m
Serial communication	RS232 or MODBUS
Ambient temperature	(0~50) ℃
Protection grade	IP67

HQ-8600
Total Nitrogen In-situ Automatic Analyzer

The HQ-8600 total nitrogen in-situ automatic analyzer monitors the total nitrogen concentration in water through the potassium persulfate oxidation method. Its compact size, portable trolley box packaging design make it convenient for transportation and use. The HQ-8600 in-situ nutrient online analyzer can be integrated into buoys, floating platforms, water platforms, and shore station systems to provide accurate, continuous, and stable measurement data for unmanned in-situ online monitoring.

Product Features

01 Equipped with a handheld display screen for more convenient debugging operations

02 Equipped with depth detection function, capable of measuring a maximum depth of 100 meters

03 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to changes in water quality

04 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to the change of water quality;

05 Equipped with leakage detection function

06 Equipped with temperature and humidity detection function

07 Low quantification limit, can reach ppb level ;

08 Fast heating and digestion function, shorter measurement time

Technical Parameter

Measurement parameters	Total nitrogen
Measuring principle	Potassium persulfate digestion spectrophotometry
Range	(0~2/10) mg/L (Adjustable range, adjustable according to customer needs)
Lower limit of detection	Lowest range 0.10 mg/L
Resolution ratio	0.001mg/L
Accuracy	±10%
Repeatability	±10%
Zero drift	± 5%
Span Drift	±10%
The recovery	80% ~120%

Time	50min
Power	15 W
Linear	$R^2 \geq 0.995$
Stability	Not exceeding ± 10% within 24 hours
Power supply	12V DC
Dimension	101 mm (L) ×140 (ϕ) mm
Depth	≤ 50 m
Serial communication	RS232 or MODBUS
Ambient temperature	(0~50) ℃
Protection grade	IP67

HQ-8801
Phosphate/Ammonia Nitrogen In-situ Automatic Analyzer

HQ-8801 phosphate/ammonia nitrogen in-situ automatic analyzer is a highly integrated water quality analyzer designed by Shanghai Zeming specifically for lakes, reservoirs, and oceans. It can simultaneously measure two parameters: phosphate and ammonia nitrogen in water. Its compact and portable size makes it easy to install on buoys, floating platforms, monitoring ships, and shore station systems to do 24-hour unmanned in-situ online monitoring of water.

Product Features

01 Equipped with a handheld display screen for more convenient debugging operations

02 Equipped with depth detection function, capable of measuring a maximum depth of 50 meters

03 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to changes in water quality

04 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to the change of water quality;

05 Equipped with leakage detection function

06 Equipped with temperature and humidity detection function

07 Low quantification limit, can reach ppb level ;

08 Fast heating and digestion function, shorter measurement time

Technical Parameter

Measurement parameters	Measuring principle	Range (Adjustable range adjustable according to customer needs)	Lower limit of detection	Resolution ratio	Accuracy	Precision	Zero drift	Span Drift	The recovery	Time
Ammonia nitrogen	Salicylic acid method	(0-1) mg/L	Lowest range 0.005 mg/L	0.001 mg/L	±5%	≤5%	±5%	±5%	80%~120%	About 28 min
Phosphate	Ammonium molybdate spectrophotometric method	(0-1) mg/L	Lowest range 0.01mg/L	0.001 mg/L	±10%	≤5%	±5%	±5%	80%~120%	About 30 min

Power	15 W
Linear	$R^2 \geq 0.995$
Stability	Not exceeding ± 10% within 24 hours
Power supply	12V DC
Dimension	101 mm（L）×140（ϕ）mm

Depth	≤50 m
Serial communication	RS232 or MODBUS
Ambient temperature	(0~50) ℃
Protection grade	IP67

HQ-8802
Nitrate/Nitrite Nitrogen In-situ Automatic Analyzer

The HQ-8802 nitrate/nitrite nitrogen in-situ automatic analyzer is a highly integrated water quality analyzer designed by Shanghai Zeming specifically for lakes, reservoirs, and oceans. It can simultaneously measure two parameters of nitrate and nitrite nitrogen in water bodies. Its compact and portable size makes it easy to install on buoys, floating platforms, monitoring ships, and shore station systems, achieving 24-hour unmanned in-situ online monitoring.

Product Features

01 Equipped with a handheld display screen for more convenient debugging operations

02 Equipped with depth detection function, capable of measuring a maximum depth of 100 meters

03 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to changes in water quality

04 Equipped with turbidity adaptive testing function, it can adjust the measurement mode in real-time according to the change of water quality;

05 Equipped with leakage detection function

06 Equipped with temperature and humidity detection function

07 Low quantification limit, can reach ppb level ;

08 Fast heating and digestion function, shorter measurement time

Technical Parameter

Measurement parameters	Measuring principle	Range (Adjustable range adjustable according to customer needs)	Lower limit of detection	Resolution ratio	Accuracy	Precision	Zero drift	Span Drift	The recovery	Time
Nitrate nitrogen	N-(1-Naphthyl) -ethylenediamine spectrophotometric method	(0-0.5) mg/L	0.001 mg/L	0.001 mg/L	±10%	≤5%	±5%	±5%	80%~120%	About 20 min
Nitrite nitrogen	N-(1-Naphthyl) -ethylenediamine spectrophotometric method	(0-0.2) mg/L	0.001 mg/L	0.001 mg/L	±10%	≤5%	±5%	±5%	80%~120%	About 40 min

power	15 W
Linear	$R^2 \geq 0.995$
Stability	Not exceeding ± 10% within 24 hours
Power supply	12V DC
Dimension	101 mm（L）×140（ϕ）mm

Depth	≤50 m
Serial communication	RS232 or MODBUS
Ambient temperature	(0~50) ℃
Protection grade	IP67

Portable Water Quality Monitoring Equipment

HQ-5101 Ammonia Nitrogen Water Quality Handheld Analyzer

HQ-5101 handheld Multifunctional Monitoring Instrument is a new product developed by ZMING after several years of efforts to meet customers' needs for rapid detection. It has complete functions, stable performance, and simple operation. It can directly use a handheld terminal to power and calibrate the intelligent digital probe, and is particularly suitable for outdoor water quality testing.

Product Features

01 Portable design, test on the go, no need for other control terminals

02 The joint part of the cable is resistant to bending and durable

03 Night lit keyboard and backlight display screen for easy operation in low light environments

04 Designed according to ergonomics, comfortable to touch and exquisite in appearance

05 Long service life, low consumables, and low average usage cost

06 Graphical display with built-in detailed help information

Parameter Introduction

Memory: Can store 2000 sets of data.

Size: 8.3cm (width) * 21.6cm (length) * 2.3cm (thickness)

Weight: 475 grams (including battery)

Power supply: Two No. 2 alkaline batteries

Cable: 1 meter, 4 meters, 10 meters available

Technical Parameter

Measurement parameter	Ammonia nitrogen
Measurement method	PVC membrane ion selective electrode glass bulb pH, ORP platinum, KCL reference
Range	0.5-1000ppm NH4+ / 0-14 pH / -9999~+999mV ORP / 0.5-1000ppm K+
Resolution	0.01ppm/0.01pH/1mV/0.01ppm
Accuracy	5%FS /±0.2pH/±20mV/5%FS (in fresh water, conductivity<1500uS/cm)
Operating temperature	5~45℃
Storage temperature	-10~50℃
Detection limit	0.05ppm/NA/NA/0.05ppm
Ingress Protection Level	IP68, 10m Max
Power supply	DC 5V ±5%， 0.5W
Output	RS485, Modbus RTU
Response time	Max 45s T90

Application Fields

- Surface water measurement
- Inlet and outlet of sewage treatment plant
- Wetland detection
- Emergency monitoring of pollution accidents
- Rural Water Environment Survey

HQ-5200

Portable Total Phosphorus Water Quality Analyzer

HQ-5200 Portable Total Phosphorus Water Quality Analyzer adopts the national standard ammonium molybdate spectrophotometric method to monitor the total phosphorus parameter in water bodies online. Its unique design of the reaction system ensures a quick and accurate measuring performance.

Product Features

01 High-temperature and high-pressure digestion, high digestion rate, and short digestion time;

02 Can automatically compensate turbidity and chromaticity and be applied to high turbidity water bodies;

03 High sample/reagent accuracy and repeatability with capacitive metering method

04 Built-in efficient and intelligent digital temperature control system (adjustable heating temperature), guaranteeing accurate temperature.

05 Suitable for emergency monitoring and law enforcement monitoring under complex working conditions;

06 Optional battery can be installed to meet water quality monitoring in any environment

Technical Parameter

Measurement parameter	Total phosphorus
Measurement principle	Ammonium molybdate spectrophotometric method
Range	(0-2/10) mg/L, 500 mg/L Max (Adjustable range, adjustable according to customer needs)
Detection limit	0.01 mg/L
Resolution	0.001 mg/L
Accuracy	±10 %
Repeatability	≤5 %
Zero drift	±5 %
Range drift	±10 %
Measurement time	40 minutes

Linear	$R^2 \geq 0.995$
Stability	Not exceeding ± 10% within 24 hours
Display	7-inch LCD display
Environmental temperature	(5～40) ℃
Maximum power	100W, average power 25W
Power supply	(85-264) V AC / (47-63) Hz, expandable DC 24V power supply
Dimension	(W) 400×(D) 300×(H) 640mm (excluding protrusions)
Serial communication	RS485 MODBUS
Analog output	(4-20) mA
Environmental humidity	≤85%RH (without condensate)

HQ-5302 COD
COD Handheld Water Quality Analyzer

HQ-5302 Handheld Monitoring Instruments is a product developed by ZMING over the years to meet customers' new needs for rapid detection. It has complete functions, stable performance, and easy operation. It can directly use a handheld terminal to power and calibrate the intelligent digital probe, and is particularly suitable for outdoor water quality detection work.

Product Features

01 Portable design, test on the go, no need for other control terminals

02 The joint part of the cable is resistant to bending and durable

03 Night lit keyboard and backlight display screen for easy operation in low light environments

04 Designed according to ergonomics, comfortable to hold and exquisite in appearance

05 Long service life, low consumables, and low average usage cost

06 Graphical display with built-in detailed help information

Features Of HQ-5000 Spectral Probe

01 No consumables required, no detachable components

02 Adopting PEEK materials

03 Plug connection or fixed cable

04 5000 hours of maintenance-free operation

Parameter Introduction

Memory: Can store 2000 sets of data.

Size: 8.3cm (width) * 21.6cm (length) * 2.3cm (thickness)

Weight: 475 grams (including battery)

Power supply: Two No. 2 alkaline batteries

Cable: 1 meter, 4 meters, 10 meters optional

Technical Parameter

Measurement parameter	COD
Measurement method	UV absorption method
Range	0.5 to 500mg/L equiv.KHP
Accuracy	±5% equiv.KHP
Resolution	0.01mg/L
Ingress Protection Level	IP68
Sensor Interface	Supports RS-485 and MODBUS protocols

Application Fields

- Surface water measurement
- Inlet and outlet of sewage treatment plant
- Wetland detection
- Emergency monitoring of pollution accidents
- Rural Water Environment Survey

Integrated Equipment
Water Quality-Monitoring Buoy

Water quality ecological buoy is commonly used for in-situ water quality ecological monitoring in natural environments such as oceans and lakes. It is a complete system by itself, carrying instruments for measurement and wireless data transmission and self-powered equipment, and capable of withstanding harsh field conditions. It is also characterized by multiple measurement parameters and low operation and maintenance work loading, and in addition, the placement point can meet the relevant regulations and requirements of the relevant maritime authorities. The functions are summarized as follows

Product Features

01 Data storage and processing functions

02 System detection and control functions

03 Wireless data transmission function

04 Abnormal condition alarm function

05 Self-powered function

06 Global positioning function

07 Excellent environmental tolerance

Application Fields

- Early warning for water sources
- Red tide algal blooms monitoring and early warning
- Water quality monitoring of rivers, lakes, and reservoirs
- Marine and coastal water quality survey
- Water quality evaluation of aquaculture areas
- Eutrophication monitoring and investigation
- Algae and plankton biomass estimation and distribution survey

Monitoring Parameters

Physical parameters:
Dissolved oxygen, temperature, pH, salinity, turbidity, chlorophyll, blue-green algae

Chemical parameters:
Ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, orthophosphate, total phosphorus/total nitrogen, COD

Meteorological parameters:
Wind speed, wind direction, barometric pressure, temperature, humidity, illumination and rainfall

Hydrodynamic parameters:
Flow velocity, flow direction, and non-directional waves

Features Of Buoy

Material: Solid ion resistant polymer foam plastic/polyurea/steel/glass fiber reinforced plastic

Diameter: 1.2m, 2m, 3m, customizable

Total height: 2.7m-3m

Reserve buoyancy: 300kg, 1000kg, 2000kg or above

The beacon lights and radar reflectors comply with the requirements of the International Association for Navigation Signs

Detention method: Hall anchor or sinking stone; Anchor rope and anchor chain

Stainless steel support frame: Used for installing solar panels, watertight antennas, warning lights, radar reflectors, etc., as well as buoy lifting and maintenance support.

Sealed and waterproof electric control room: Equipped with a built-in data acquisition controller, battery system, and humidity and temperature sensors. The stainless steel bottom of the electric control room is directly in full contact with water through a stable tube, balancing the temperature in the electric control room at an appropriate level to prevent equipment damage caused by high temperatures in summer.

HQ-1001
Water Quality Monitoring System For Water Supply Network

ZMING HQ-1001 Water Quality Monitoring System for Water Supply Network is a multi-parameter online water quality analyzer developed specifically for the online monitoring of water quality in water supply network. It can continuously monitor water quality parameters such as residual chlorine, total chlorine, turbidity, pH, temperature, ORP, conductivity, etc. It can be perfectly applied to secondary water supply, swimming pool water quality monitoring, and other occasions.

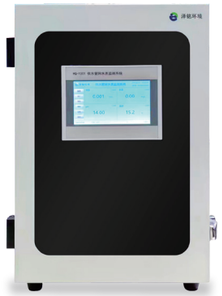
Technical Features

01 Integrated design: It adopts an integrated design with a small footprint and supports wall and vertical installation. It can continuously monitor water quality parameters such as residual chlorine, total chlorine, turbidity, pH, temperature, ORP, conductivity, etc

02 Low maintenance: Specially designed for unmanned applications, with automatic cleaning and automatic sewage discharge. Automatic flow recognition, stop water and measurement. Power outages can be automatically restored. Water and electricity separation design, leakage alarm, adjustable residual chlorine measurement cycle, ensuring adjustable reagent replacement cycle within 1-12 months.

03 Classic measurement method: DPD classic method is used for residual or total chlorine monitoring, and electrochemical electrodes such as pH, ORP, and conductivity can be configured according to requirements. It can also expand indicators such as TOC and chromaticity

04 Complete communication functions: RS485 digital output and optional multi-channel 4-20mA output, convenient for users to transmit data to the monitoring center; Multi way relay for early warning output, with free setting of upper and lower warning limits.



Application Fields

- Drinking water network monitoring
- Secondary water supply monitoring
- Swimming pool water monitoring
- Process water monitoring in waterworks
- Water quality of centralized water supply facilities in rural areas monitoring

Technical Index

Measurement parameters	Measurement methods	Measurement range	Accuracy
Residual chlorine/ Total chlorine	DPDmethod	(0-5)mg/L	± 5% reading
Turbidity	90° scattering method	(0-10)NTU	The larger of ± 0.01NTU and 2% reading
PH	Electrode method	(0-14)	± 0.1
Conductivity	Electrode method	(0-50000) uS/cm range selectable	± 1%
ORP	Electrode method	(-2000-2000)mV	± 1mV
Temperature	Thermistor method	(0-60)℃	± 0.1 ℃

Power supply	220VAC±10%，50/60Hz
Relay outputs	Multiple relay outputs, with the freedomto set corresponding measurement parameters and thresholds.
Digital output	RS485 (MODBUS RTU)
Optional analog output	Multi-channel 4-20mA analog output channel, optional
Calibration	Turbidity, residual chlorine, pH, conductivity, analog output channel
Interface	Water inlet: 2-point PE quick connect Water outlet: 14mm * 18mm hose
Sample flow range	(0.1-5.0)L/min
Sample temperature	(0-40) ℃
Data storage	Can be set with a (0-60) minute storage cycle and one year of historical data
Size	Length 440 * Height 650 * Thickness 260mm
Consumables	Residual chlorine/total chlorine reagent; PH electrode (replaced once a year); Low turbidity cleaning brush (replace once a year)

HQ-1002
Water Quality Monitoring System For Water Supply Network

ZMING HQ-1002 Water Quality Monitoring System for Water Supply Network is a multi-parameter online water quality analyzer developed specifically for the online monitoring needs of water supply network water quality. It can continuously monitor water quality parameters such as residual chlorine, total chlorine, turbidity, pH, temperature, ORP, conductivity, etc. It is perfect for secondary water supply, swimming pool water quality monitoring, and other occasions.

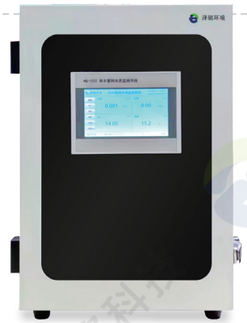
Technical Features

01 Integrated design: It adopts an integrated design with a small footprint and supports wall and vertical installation. It can continuously monitor water quality parameters such as residual chlorine, total chlorine, turbidity, pH, temperature, ORP, conductivity, etc

02 Low maintenance: Specially designed for unmanned applications, with automatic cleaning and automatic sewage discharge. Automatic flow recognition, stop water and measurement. Power outages can be automatically restored. Water and electricity separation design, leakage alarm, adjustable residual chlorine measurement cycle, ensuring adjustable reagent replacement cycle within 1-12 months.

03 Classic measurement method: DPD classic method is used for residual or total chlorine monitoring, and electrochemical electrodes such as pH, ORP, and conductivity can be configured according to requirements. It can also expand indicators such as TOC and chromaticity

04 Complete communication functions: RS485 digital output and optional multi-channel 4-20mA output, convenient for users to transmit data to the monitoring center; Multi way relay for early warning output, with free setting of upper and lower warning limits.



Application Fields

- Drinking water network monitoring
- Secondary water supply monitoring
- Swimming pool water monitoring
- Process water monitoring in waterworks
- Water quality of centralized water supply facilities in rural areas monitoring

Technical Index

Measurement parameters	Measurement methods	Measurement range	Accuracy
Residual chlorine/ Total chlorine	Electrode method	(0-5)mg/L	± 5% reading
Turbidity	90° scattering method	(0-10)NTU	The larger of ± 0.01NTU and 2% reading
PH	Electrode method	(0-14)	± 0.1
Conductivity	Electrode method	(0-50000) uS/cm range selectable	± 1%
ORP	Electrode method	(-2000-2000)mV	± 1mV
Temperature	Thermistor method	(0-60)℃	± 0.1 ℃

Power supply	220VAC±10%，50/60Hz
Relay outputs	Multiple relay outputs, with the freedomto set corresponding measurement parameters and thresholds.
Digital output	RS485 (MODBUS RTU)
Optional analog output	Multi-channel 4-20mA analog output channel, optional
Calibration	Turbidity, residual chlorine, pH, conductivity, analog output channel
Interface	Water inlet: 2-point PE quick connect Water outlet: 14mm * 18mm hose
Sample flow range	(0.1-5.0)L/min
Sample temperature	(0-40) ℃
Data storage	Can be set with a (0-60) minute storage cycle and one year of historical data
Size	Length 440 * Height 650 * Thickness 260mm
Consumables	PH electrode (replaced once a year); Low turbidity cleaning brush (replace once a year)

HQ-FC 600
Pontoon Water Quality Online Monitoring System

HQ-FC 600 pontoon water quality online monitoring system is a set of online water quality monitoring systems that integrates water quality online analyzer, system control and data collection, remote monitoring, online quality control, and wind power complementarity.

It combines modern communication technology to automatically transmit the measurement results of instruments, system operation status, operation status of each instrument, system faults, instrument faults, and other information to the central management unit in real time. It can also accept various instructions from the central end and carry out control of the whole system in real time, such as remote setup, remote calibration, remote quality control, remote emergency monitoring, and so on.

Product Features

01 **Routine five parameter in-situ measurements:** The five parameter measurement adopts in-situ measurement to avoid the influence of pipelines and water intake distance, ensuring the representativeness of the measured water body.

02 **Modular design:** The system adopts a modular design, integrating multiple functional modules such as auxiliary units, quality control units, analytical instruments, system control units, remote data transmission units, and security monitoring.

03 **Power supply method:** Solar and wind power supply

Advantages Of Analysis Module

01 Eliminate turbidity interference through reference value deduction, and use the latest design principle of dual beam ultraviolet spectrophotometer to ensure the authenticity and reliability of test data.

02 Abandon the use of high-power accessories and adopt energy-saving electrical components, with an average power consumption of 25W, fully realizing the independent power supply of solar energy.

03 The detection limit of the device is low, up to 10ppb;

04 The water quality monitoring system achieves modular and systematic management, making it easy for customers to use and manage;

05 Customers can easily achieve automatic station function switching and expansion, and significantly reduce system upgrade costs;

Measurement Parameters

Water temperature, pH, conductivity, turbidity, dissolved oxygen, total phosphorus, total nitrogen, ammonia nitrogen, potassium permanganate index, chlorophyll, blue-green algae, etc

Application Fields

It can be applied to automatic monitoring of water quality in water sources, lakes, reservoirs, rivers, and other areas

Corollary Equipment: Total Phosphorus, Total Nitrogen, Ammonia Nitrogen Analyzer

- **Model: HQ-3000**
  Using standard wet chemical methods for online measurement: ammonia nitrogen, phosphate, total phosphorus, nitrate nitrogen, nitrite nitrogen, total nitrogen. The HQ3000 series is the first online nutrient monitoring equipment that can be applied to small-scale water quality automatic monitoring stations based on solar power supply. With its extremely low energy consumption and compact appearance, patented temperature-control technology, and secondary self-cleaning filtration, the HQ3000 series successfully solves the problems of no utility power and piped water in the field.

- **Model: HQ-3501**
  The standard method of acidic potassium permanganate-redox titration is adopted, which avoids the influence of turbidity due to the use of ORP electrode to sense the titration endpoint. In addition, high-precision injection pumps and micro titration pumps are used to ensure that the analyzer has the characteristics of high accuracy, good repeatability, and low maintenance, which can achieve online monitoring of low concentration water samples.

HQ-9000
Micro Automatic Water Quality Monitoring Station

The micro automatic water quality monitoring station system is composed of water collection unit, water distribution unit, pretreatment unit, analysis unit, control unit, and data collection and transmission unit. This system can monitor the water quality changes, patterns, and trends of monitoring sections in real-time and quickly, detect environmental pollution events timely, and provide a scientific basis for decision-making, supervision, and environmental management of basin pollution prevention and control.
The water station adopts a modular design principle, with the core unit being the analysis unit. Total phosphorus, total nitrogen, COD, and ammonia nitrogen strictly follow the chemical analysis methods specified in the national standard. The conventional five parameter indicators (dissolved oxygen, conductivity, turbidity, temperature, pH) are measured using a multi electrode integrated method, and excess source and sample water are discharged through the main drainage pipeline. The water distribution unit uses an air compressor high-pressure flushing method to blow back and clean the sampling pipeline, ensuring that the pipeline is clean and pollution-free.

System Characteristics

01 Parameter integration, measurement modular design (highly integrated)
Integrated with ammonia nitrogen, total phosphorus, total nitrogen, CODCr/CODMn measurement modules, as well as conventional five parameter measurement modules (expandable chlorophyll, blue-green algae, etc.).

02 Comply with the technical requirements and applicability testing operation manual for outdoor small-scale water quality automatic monitoring system (HJC-ZY73-2019), compatible with 212 national standard protocol, and equipped with remote data transmission function

03 High precision, good stability, less maintenance, and low waste liquid volume

04 It occupies a small area and can be quickly deployed, making it particularly suitable for monitoring pollution sources and grid based monitoring

05 Low power consumption, some situations can use solar power supply, suitable for more complex working conditions, and has stronger endurance

Parameter Introduction

Five parameters of water quality: Temperature, conductivity, dissolved oxygen, pH, and turbidity

Nutrient salts: CODCr/CODMn, TP, TN, ammonia nitrogen

Application Fields

- Water quality monitoring of key sections such as lakes, reservoirs, and rivers;
- Monitoring of water ecological environment, such as online monitoring of water quality in wetlands, parks, and landscape rivers;
- Online monitoring of river channels and sewage outlets entering the sea.

Technical Parameter

Technical indicators	Measurement principle	Range (Adjustable range, adjustable according to customer needs)	Accuracy	Precision
pH	Glass electrode method	(0-14)pH	≤ ±0.1pH	≤ ±0.1H
Temperature	Sensitive electrode method	(0-60)℃	± 0.1℃	≤ ±1%
Turbidity	Infrared scattering method	(0-4000)NTU	≤ ±2%	≤ ±1%
Dissolved oxygen	Polarography or fluorescence method	(0-20) mg/L or (0-200%) saturation	± 0.3mg/L	± 0.3mg/L
Conductivity	Four wire graphite electrode method	(0-500)ms/cm	≤ ±1%	≤ ±1%
Total ammonium	Molybdate spectrophotometric method	(0-2/10) mg/L, with a maximum extension to 500mg/L	±10%	±10%
Total nitrogen	Potassium persulfate oxidation method	(0-2/10) mg/L, with a maximum expansion to 500mg/L	±10%	±10%
Ammonia nitrogen	Salicylic acid spectrophotometric method	(0-2/10) mg/L, with a maximum expansion to 500mg/L	±5%	±5%
Permanganate index	Redox titration method	(0-10/20) mg/L, with a maximum extension to 160mg/L	±10%	±5%

Display Screen	Touch color LCD display screen
Cabinet Ingress Protection Level	IP55
Cabinet size	1500*1810*970mm
Power supply	(100 ~ 240) VAC, 50/60 Hz
Power	Average power 1.2kW maximum power 1.8kW
UPS Uninterruptible Power	Supply host 3000VA/2400W
Sampling Pump	Self priming pump, maximum suction head: 7 m (or submersible pump)

Backwash Equipment	Air compressor
Water Sample Pre-treatment Method	Sedimentation+Coarse filtration
Industrial Computer Communication Interface Protocol	RS232/RS485 <Modbus RTU>
Data Storage	≥ 12 months of raw data and operational logs
Data Transmission Method	Network transmission (fiber optic/4G cat)
Environmental Temperature	(-10 ~ 55) ℃
Environmental Humidity	≤95% (without condensation)

Miniature Land-Based Automatic Water Quality Monitoring Station

The Water Quality Sentinel, also known as a miniature land-based automatic water quality monitoring station, is a automatic water quality monitoring system that uses multi-parameter water quality monitoring instruments and spectral sensors as the core, utilizes green energy such as solar energy and wind energy for power supply, utilizes modern sensor technology, and integrates automatic control technology, specialized data analysis software, and communication networks. It is applicable to online automatic monitoring of surface water. The functions are as follows:

Product Features

01 Provide a complete set of solutions, with a small size (covering an area of approximately 0.5-2 square meters), easy to move, strong functionality, and low investment, saving costs such as land acquisition, station building, and personnel.

02 The monitoring points can be changed according to monitoring needs, suitable for long-term continuous online monitoring of different water bodies and temporary emergency monitoring of water bodies with abnormal water quality.

03 Long term stability, low maintenance, and low overall cost of ownership.

04 Continuously, timely, and accurately monitor the water quality changes of the main rivers and outlets in the city, and alarm when the monitoring parameters exceed the standard or the system status signal is displayed.

05 By transmitting data remotely through communication methods such as GPRS, real monitoring data can be obtained anytime and anywhere.

06 Automatic operation, power outage protection, and automatic recovery of incoming calls.

07 Utilize green power supply systems such as solar energy and wind power.

System Composition

Water collection and distribution unit:
Water pump, water supply and drainage pipeline, and flow tank.

Monitoring units:
Temperature, pH, conductivity, turbidity, DO, ammonia nitrogen, total nitrogen, total phosphorus, COD, BOD, chromaticity, BTX benzene series (benzene toluene xylene), turbidity, TOC, H2S, fingerprint and spectral alarm.

Data processing and transmission unit:
Data acquisition platform, data processing software, and various data transmission methods.

Integrated cabinet unit:
Stainless steel material, double layer thermal insulation.

Power supply unit:
Mains or solar power. Security unit: Video surveillance security unit (optional).

Detection Unit

Multi parameter water quality monitoring instrument
A multi-parameter water quality monitoring instrument that monitors dissolved oxygen, turbidity, pH, conductivity, water temperature and other parameters. All sensors are automatically cleaned and can store and output measurement data. It has a built-in power supply and minimal maintenance, especially designed for long-term outdoor monitoring.

Simple Type Automatic Water Quality Monitoring Station

The simple type automatic water quality monitoring station is a comprehensive water quality automatic monitoring system composed of online automatic analytical instruments as the core, using modern sensor technology, automatic measurement technology, automatic control technology, computer application technology, relevant specialized analysis software, and communication network.

Conventional indicators:
Water temperature, pH/ORP, conductivity, dissolved oxygen, turbidity, permanganate index, ammonia nitrogen, total phosphorus, total nitrogen

Characteristic indicators:
Fluoride, heavy metals, chlorophyll, blue-green algae

Hydrological indicators:
Flow velocity, flow rate, water level

Application scenario:
Automatic water quality and hydrological monitoring of monitoring sections, ecological compensation sections, etc1

System Composition

Water collection unit:
Including water collection structures, water collection pumps, anti clogging devices, water collection pipelines, insulation supporting devices, cleaning supporting devices, water collection pipeline backwashing devices, and adopting the most suitable water collection method according to local conditions.

Water distribution and pre-treatment unit:
By taking measures such as sedimentation, filtration, and homogenization to ensure the representativeness of the water sample, eliminate factors that interfere with monitoring instruments; Water, gas, and ultrasonic cleaning modes are optional.

Analysis unit:
All monitoring instruments use national standard methods, with accurate and reliable data. The quality control module can achieve automatic verification of instrument repeatability, accuracy, and other performance indicators.

System control unit:
Including water station control software, industrial control computer, PLC controller, and communication network.

Data collection and transmission:
According to the unified communication protocol of national standards, it is automatically executed, remotely controlled, and backed up according to the analysis cycle.

Auxiliary units:
UPS uninterruptible power supply, AC stabilized power supply, video monitoring equipment, waste liquid collection device, automatic sampler, and security device.

Features

01 The monitoring parameters are comprehensive and specific parameters are optional.

02 The national standard method for testing ensures accurate and reliable data.

03 Independently setting measurement intervals allows for multiple data collection in a short period of time.

04 No need for stationary operation, it can operate automatically, stably, and for a long time.

05 Automatic retention of samples for exceeding standards, facilitating experimental comparison.

06 Remote monitoring, SMS intelligent alarm.

07 Information system to achieve intelligent management.

Fixed Platform For Online Automatic Ecological Monitoring On Water

The fixed platform for online automatic ecological monitoring on water is based on a large fixed platform built on the water surface, with online water quality multi-parameter analyzers, nutrient analyzers, meteorological instruments, and other advanced technologies such as modern sensor technology, automatic control, and the Internet of Things, combined with specialized data management and analysis software, to form an offshore online ecological automatic monitoring system suitable for large water bodies.

System Composition

The fixed platform for online ecological monitoring on water is composed of a fixed platform on water, a power supply guarantee system, a data acquisition and wireless communication system, a backend data management display software system, and core monitoring instruments.

Monitoring Parameters

Conventional water quality parameters:
Water temperature, conductivity, salinity, pH/ORP, turbidity, dissolved oxygen, chlorophyll a, blue-green algae, fDOM (fluorescence dissolved organic matter), etc

Nutrient parameters:
Ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, nitrate, total phosphorus, total nitrogen

Pollutant parameters:
COD, TOC, DOC, UV254, TSS, chromaticity, spectral fingerprint, and spectral alarm, etc

Hydrological parameters:
Water level, flow velocity, flow direction, waves, etc

Meteorological parameters:
Wind speed, direction, temperature, relative humidity, rainfall, visibility, radiation, etc

Platform Features

01 A fixed platform on water, a permanent building with large space, multiple monitoring parameters, and strong scalability, provides greater convenience and better on-site experimental conditions for conducting various in-situ experiments on water.

02 Long term stability, low maintenance volume, and overall low operation and maintenance costs.

03 Continuously, timely, and accurately monitor the changes in the hydrological, water quality, meteorological, and other ecological environments of the target water area. Display and alarm when the monitoring parameters exceed the standard or the system status is abnormal.

04 Multiple optional wireless communication methods can remotely transmit data, allowing real-time monitoring data to be obtained anytime and anywhere.

05 Automatic operation, power outage protection, automatic recovery of incoming calls.

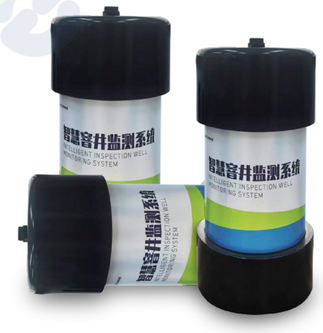
06 Utilize green power supply systems such as solar and wind energy.

07 It is possible to install a high-definition video monitoring system to monitor the real-time situation of the platform and nearby waters.

08 Truly unmanned.

Intelligent Manhole Monitoring System

The intelligent manhole monitoring system is an online automatic water quality monitoring system composed of multispectral technology, optical sensor technology, ion selective sensor technology, modern sensor technology, automatic control technology, specialized data analysis software, and wireless communication network. It is able to timely grasp the water quality status of the main rainwater and sewage runoff wells, provide early warning and forecasting of water pollution accidents, supervise the implementation of the total amount control system and emission standards, and assist in urban water quality supervision and smart city water quality indicator control.



System Composition

01 Monitoring and analysis unit: water quality multi-parameter sensor

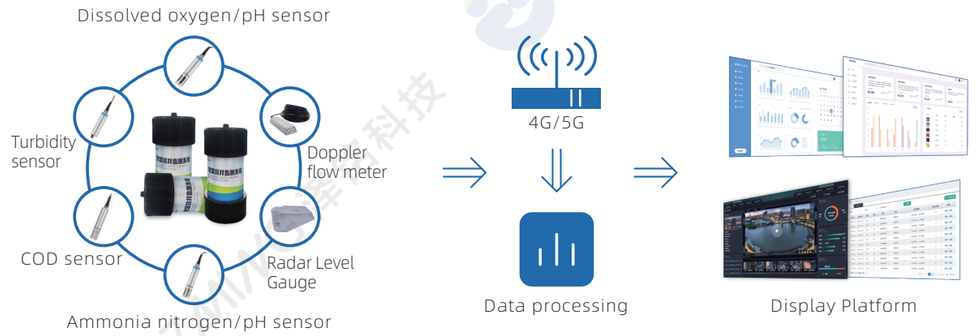
02 Power supply system: lithium battery power supply

03 Data collection system: MQPC-06 integrated terminal

04 Data transmission system: DTU/RTU/data acquisition instrument

05 Data service system: servers, central station management software, etc

Application



Advantages And Features

To rapidly and low-cost grasp the continuous operating characteristics of drainage pipelines, open channels, inspection wells, and outlets, it is necessary to continuously measure various basic operating parameters such as water quality pollution and hydrological changes, obtain continuous monitoring data, and grasp the changing patterns. Through instantaneous analysis, statistical calculation, and model simulation of these basic data, comprehensive diagnosis and evaluation of the system's current situation can be carried out, providing guidance for various research, planning The implementation of design and other work lays a solid data foundation.

Technical Parameters

Sensor technical parameters				
Project	Measurement principle	Range	Accuracy	Resolutio
PH	Glass electrode method	0～14 pH	< 0. 2pH	0.01
Conductivity	Quadrupole electrode method	1 ~100000μS/cm	< 1%	0.0001mS/cm
Dissolved oxygen	Fluorescence method	0~20mg/L	< 0.3mg/L	0.01mg/L
Turbidity	90 ° scattering	0.3 ~100/1000 /4000NTU	< 3%	0.01NTU
Temperature	Thermal resistance method	0~45℃	< 0.2℃	0.01℃
Ammonia nitroge	Ion electrode method	0～100mg/L	± 10% or ± 0.5mg/L whichever is greater	0.01mg/L
COD	Ultraviolet absorption method	1-1500mg/L	< 5%	0.01mg/L

System composition	Flow and liquid level monitoring system
	1. Flow and liquid level probes
	2. Solar panels and batteries
	3. Galvanized steel pipe
	4. Equipment chassis
	5. Installation bracket
	6. Other necessary equipment (power supply, ground cage, foundation, etc.)
	7. Sewage monitoring cloud platform or local platform

Category Of Flow And Liquid Level Probes—Specification

Doppler ultrasonic flowmeter

Flow rate:Measurement range: 0.02~5m/s (expandable) Accuracy: ± 1% ± 0.01m/s Resolution: 1mm/s
Water depth:Measurement range: 0m-10m (expandable)
Accuracy: ± 1cm Resolution: 1mm
Flow rate:Measurement range: 0.001m ³/ H-999999999 m ³/ H
Accuracy: ± 2-3% (varies depending on the cross-sectional shape)
Resolution: 0.001 m ³/ H Temperature:Measurement range: -20 ℃ -65 ℃
Accuracy: ± 0.5 ℃, Resolution: 0.1 ℃ Basic parameters Power supply: DC 9V-24V
Power consumption: ≤ 1W Data refresh frequency: 1Hz
Signal interface: RS485 (Modbus) Storage capacity: 2M (scalable) Protection level: IP68
Working temperature: -20 ℃ -65 ℃ (non icing) Storage temperature: -10 ℃ -70 ℃ Shell material: ABS

Radar flowmeter

Flow rate:Effective distance: 0-40m Measurement range: 0.1-20m/s; 0.1-40m/s
Measurement accuracy: ± 0 01m/s; ± 1% Resolution: 0 001m/s
Water level:Measurement range: 0-7m Measurement accuracy: ± 3cm
Resolution: 1mm Basic parameters:Power supply range: 9-24V, typical value 12V
Power consumption:<120mA Working temperature: -30-60 ℃ Storage temperature: -30-70 ℃
Relative humidity: 0-95% RH Communication interface: RS485 (Modbus) Protection level: IP67
Antenna: 60GHz Beam angle: 8 ° Shell material: aluminum alloy

Radar water level gauge

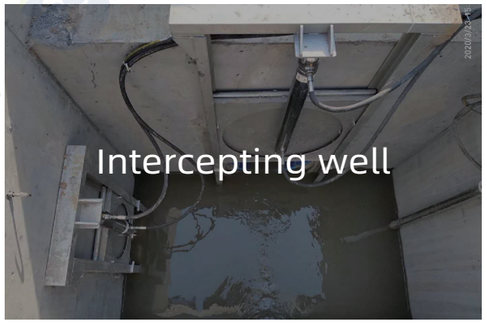
Water depth measurement range: 7m Accuracy: ± 3mm Antenna transmission angle (horizontal and vertical): 8 °
Transmission frequency: 60GHz Power supply: DC6V-24V, typical value 12V Average power consumption: ≤ 30mW
Signal interface: RS485 (Modbus) Protection level: IP68 Working temperature: -35 ℃~80 ℃ (non icing)
Storage temperature: -35 ℃~70 ℃ Shell material: aluminum alloy
Installation method: threaded

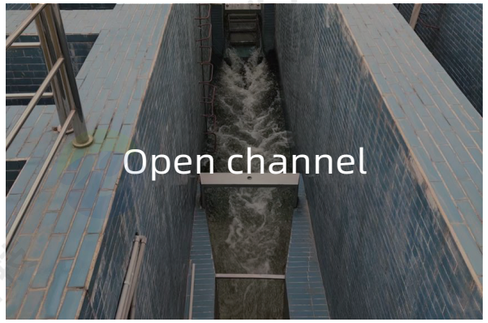
Technical Parameters

Technical parameters of monitoring system	
Project	Smart Inspection Well Monitoring System - Microstation
Power supply	12V
Lithium battery	50Ah (expandable)
Communication protocol	Standard Modbus-RTU master-slave protocol supporting HJ212-2017 protocol
The default upload cyclet	30 minutes, and can be set from 1 to 1440 minutes
Auxiliary function	Voltage detection, sensor status, internal temperature and humidity monitoring

Technical parameters of monitoring system	
Long standby	Continuous operation for more than 90 days (limited to upload cycles greater than 15 minutes)
Fixing method	Bracket fixation
Dimensions	Φ14*30CM (control unit) Φ14*30CM (power supply unit)
Material	UPVC
Parameter selection	PH, conductivity, dissolved oxygen turbidity, temperature、COD, ammonia nitrogen, liquid level, flow rate, etc

Application Scenario





Online Monitoring System For Non-Methane Total Hydrocarbons In Exhaust Gases From Stationary Pollution Sources

ZMING' s volatile organic compounds online monitoring system is a terminal monitoring equipment for industrial volatile organic compounds (VOCs) exhaust emissions, and is an important technical means to evaluate the production and emission standards of enterprises. The system uses a full process high-temperature extraction method to extract the sample gas, and uses gas chromatography-hydrogen flame ionization detector technology (GC-FID) to online monitor the emission of volatile organic compounds from fixed pollution sources. It can simultaneously monitor parameters such as outlet temperature, pressure, flow rate, oxygen content, humidity, etc, The product design fully meets the requirements of the "Technical Requirements and Testing Methods for Continuous Monitoring System of Non methane Total Hydrocarbons in Waste Gas from Fixed Pollution Sources (HJ1013-2018)".

System Features

01 Adopting EPC electronic pneumatic control technology can achieve excellent qualitative and quantitative repeatability and accuracy;

02 Adopting differential GC-FID analysis technology, there is no problem of backflushing residue, improving system stability;

03 It can integrate a specially designed jet sampling device, with no rotating parts in the system and good stability, especially suitable for explosion-proof on-site applications;

04 The system supports dynamic control technology and can meet the strict equipment supervision needs of regions such as Jiangsu and Shandong;

05 The system adopts modular technology, and the internal components of the cabinet are designed and installed with standard 19 inch rack modules, which occupy small space and are convenient for daily maintenance and operation;

06 The system fully meets the performance and functional requirements of HJ1013-2018 standard.

Technical Parameters

- **Measurement object:** Methane and non methane total hydrocarbons in fixed pollution source flue gas;
- **Analysis method:** Online gas chromatography hydrogen flame ionization detection method (GC-FID);
- **Measurement range:** 0-200/2000mg/m3 (optional range);
- **Minimum detection limit:** 0.05ppm (non methane total hydrocarbons);
- **Chromatograph analysis cycle:** 24-hour fully automatic sampling, non methane analysis cycle of 1 minute;
- **Repeatability:** 2%FS ;
- **Air source requirements:** Air: dry, clean, 0.4MPa, 300ml/min; Hydrogen gas: mass 5.0, 0.4MPa, 300ml/min; Blowback gas air: dry, clean, 0.4-0.7MPa, 20L/min;
- **Calibration function:** With full calibration function and local calibration function of importing standard gas through sampling probe;
- **Full process heating function:** It has a full process high-temperature heating function from the sampling probe to before entering the gas analyzer;
- The chromatographic column is placed in a high-temperature box to ensure its reliability and eliminate interference from other substances. Built in sampling device for precise quantitative sampling; The sampling pipeline is equipped with automatic backflushing function to ensure that there are no residual samples in the sampling pipeline;

Application Field

Suitable for monitoring the emission of volatile organic compounds from large-scale industrial pollution sources in industries such as petrochemical, printing, spraying, pesticide production, electronic manufacturing, automotive manufacturing, furniture manufacturing, shoe making, building materials, chemical, chemical storage and transportation, printing and dyeing.

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